We Claim:

1. An apparatus for ascertaining and correcting an optimum sampling time for an oversampled digital bit stream in which samples are taken at n different sampling times for each bit, the apparatus comprising:

a reading unit for reading each next bit from said oversampled digital bit stream at said optimum sampling time;

a correlation determining unit for determining a correlation between a sequence of sampled data bits and a comparative sequence, said correlation determining unit providing correlation values by determining an associated correlation value at each sampling time; and

a unit for determining a new optimum sampling time from said correlation values;

said comparative sequence being a continuous bit pattern; and

said bit read at said optimum sampling time being fed into said comparative sequence.

2. The apparatus according to claim 1, further comprising:

a comparative-sequence shift register for storing said comparative sequence;

said bit read at said optimum sampling time being fed into said comparative-sequence shift register.

3. The apparatus according to claim 1, further comprising:

a sequence of shift registers for shifting said oversampled digital bit stream;

each one of said shift registers having n register cells for holding n samples available for each bit.

4. The apparatus according to claim 1, wherein said optimum sampling time is determined a plurality of times during a data burst.

5. The apparatus according to claim 1, wherein said optimum sampling time is determined a plurality of times during a data burst at cyclic intervals.

6. The apparatus according to claim 1, wherein said comparative sequence is equated to a synchronization word at each start of reception of a data burst.

7. The apparatus according to claim 1, wherein said optimum sampling time is varied only within a prescribed range around a previous optimum sampling time.

8. The apparatus according to claim 1, wherein said correlation determining unit determines a hamming distance between said sequence of sampled data bits that is associated with a particular sampling time and said comparative sequence.

9. The apparatus according to claim 8, wherein said correlation determining unit compares said hamming distance with a prescribed threshold value and if said hamming distance is below said threshold value, said correlation determining unit sets an associated correlation flag.

10. The apparatus according to claim 8, wherein said unit for determining said new optimum sampling time determines said new optimum sampling time by considering a sampling-time range within which said hamming distance is below said prescribed threshold value.

11. The apparatus according to claim 8, wherein:

said unit for determining said new optimum sampling time determines said new optimum sampling time by considering a

sampling-time range within which said hamming distance is below said prescribed threshold value; and

said new optimum sampling time is chosen as a time that is in a center of said sampling-time range.

12. A method for ascertaining and correcting an optimum sampling time for an oversampled digital bit stream in which samples are taken at n different sampling times for each bit, the method which comprises:

reading a next bit from the oversampled digital bit stream at a previous optimum sampling time;

feeding the bit into a comparative sequence being stored as a continuous bit pattern;

determining a correlation between a sequence of sampled data bits and the comparative sequence, wherein a plurality of correlation values are obtained by determining an associated correlation value at each sampling time; and

determining a new optimum sampling time from the plurality of correlation values.

13. The method according to claim 12, which further comprises storing the comparative sequence in a comparative-sequence shift register by feeding the bit, which has been read at the previous optimum sampling time into the comparative-sequence shift register.

14. The method according to claim 12, which further comprises:

using a sequence of shift registers to shift the oversampled digital bit stream; and

providing each one of the shift registers with n register cells for holding n samples available for each bit.

15. The method according to claim 12, which further comprises performing the step of determining the optimum sampling time a plurality of times during a data burst.

16. The method according to claim 12, which further comprises performing the step of determining the optimum sampling time a plurality of times during a data burst at cyclic intervals.

17. The method according to claim 12, which further comprises equating the comparative sequence to a synchronization word at each beginning of a reception of a data burst.

18. The method according to claim 12, which further comprises situating the new optimum sampling time within a prescribed range around the previous optimum sampling time.

19. The method according to claim 12, which further comprises performing the step of determining the correlation by determining a hamming distance between the sequence of sampled data bits, which is associated with a particular sampling time, and the comparative sequence.

20. The method according to claim 19, which further comprises performing the step of determining the correlation by comparing the hamming distance, which is associated with a particular sampling time, with a prescribed threshold value, and if the hamming distance is below the threshold value, setting a correlation flag.

21. The method according to claim 19, which further comprises performing the step of determining the new optimum sampling time by considering a sampling-time range within which the hamming distance is below a prescribed threshold value.

22. The method according to claim 21, which further comprises choosing a time that is in a center of the sampling-time

range, within which the hamming distance is below the prescribed threshold value, as the new optimum sampling time.